



U.S. PATENT AND TRADEMARK OFFICE
AMENDMENT TRANSMITTAL FORM

(IPW)

A42168
Docket Number

In re the Application of Thomas R. Maher et al.
Serial No.: 10/743,363
Filed: December 22, 2003
For: VARIABLE CONDITION RESPONSIVE
SENSE SYSTEM AND METHOD
Confirmation No.:
Art Unit: 2856
Examiner:

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

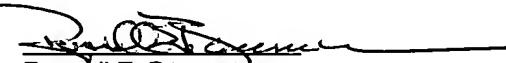
Transmitted herewith is an amendment in the above-identified application.

The fee has been calculated as shown below:

CLAIMS AS AMENDED						
	CLAIMS REMAINING AFTER AMENDMENT		HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA	RATE	ADDITIONAL FEE
Total Claims	17	Minus	20	= 0	x \$18 =	\$ 0.00
Independent Claims	3	Minus	3	= 0	X \$88 =	\$ 0.00
TOTAL ADDITIONAL FEE FOR THIS AMOUNT						\$ 0.00

Charge the total additional fee, and any further fees, or credit overpayment to deposit account no. 20-0670. Two duplicate copies of this sheet are enclosed.

Texas Instruments Incorporated
34 Forest Street, MS 20-21
Attleboro, MA 02703


Russell E. Baumann
Attorney for Applicant
Registration No. 27,418
(508) 236-3314

CUSTOMER NO. 25946



11-30-04/dmg File A42168

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

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Customer No.: 25946

Preliminary Amendment

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Dear Sir:

Please amend the above-identified application as follows:

Amend claims 9 and 11 as follows:

- 1 9. (Currently Amended) A variable condition responsive sense element system
- 2 comprising
- 3 a plurality of variable condition responsive sense elements providing an
- 4 output dependent on the variable condition, the variable condition being one of
- 5 pressure, acceleration, force and torque, the sense elements each having first and
- 6 second half bridges, each bridge half having a bias node, a ground node and a
- 7 respective positive and minus output node,
- 8 a voltage source,

9 an electronic circuit having first, second, third and fourth multiplexers, each
10 having an output and a plurality of address input positions,
11 a respective independent variable resistor connected in series between the
12 voltage source and the output of each of the first and third multiplexers, the bias node
13 of each half bridge of each sense element connected to a respective multiplexer
14 address position of the respective first and third multiplexers,
15 separate signal conditioning paths,
16 the minus output node of each sense element connected to a respective
17 multiplexer address position of the second multiplexer, the positive node of each sense
18 element connected to a respective multiplexer address position of the fourth
19 multiplexer,
20 a respective separate signal path connected to the output of each multiplexer,
21 an analog to digital converter having a plurality of inputs and an output, the
22 signal paths being connected to the inputs of the analog to digital converter,
23 a data register having an input and an output, the output of the analog to
24 digital converter connected to the input of the data register,
25 a data transfer circuit connected to the data register and having connections
26 for an external controller, said data transfer circuit capable of transferring data to and
27 from the external controller, and
28 ~~data transmitted to and received from the external controller through the data~~
29 ~~transfer circuit~~
30 a memory, the memory section being connected to the data transfer circuit, the
31 memory providing analog trim settings for the sense element signal paths, and data for
32 the external controller enabling the external controller to perform mathematical
33 compensation for the variable condition sense element signals.